

The diagram illustrates a 1D chain of coupled qubits. On the left, a sequence of qubits is shown, each represented by a circle with a vertical line through it. These qubits are connected by horizontal lines, representing nearest-neighbor interactions. On the right, a similar sequence of qubits is shown, but with an additional central qubit that is connected to all other qubits in the chain, forming a star-like structure. The qubits are labeled with various symbols, including  $\sigma_x$ ,  $\sigma_y$ ,  $\sigma_z$ , and  $\sigma$ , indicating different types of qubits or interactions.

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